Exam AZ-301: Microsoft Azure Architect Design

Determine Workload Requirements (10-15%)

- Gather Information and Requirements
    - *May include but not limited to:* Identify compliance requirements, identity and access management infrastructure, and service-oriented architectures (e.g., integration patterns, service design, service discoverability); identify accessibility (e.g. Web Content Accessibility Guidelines), availability (e.g. Service Level Agreement), capacity planning and scalability, deploy-ability (e.g., repositories, failback, slot-based deployment), configurability, governance, maintainability (e.g. logging, debugging, troubleshooting, recovery, training), security (e.g. authentication, authorization, attacks), and sizing (e.g. support costs, optimization) requirements; recommend changes during project execution (ongoing); evaluate products and services to align with solution; create testing scenarios
- Optimize Consumption Strategy
    - *May include but not limited to:* Optimize app service, compute, identity, network, and storage costs
- Design an Auditing and Monitoring Strategy
    - *May include but not limited to:* Define logical groupings (tags) for resources to be monitored; determine levels and storage locations for logs; plan for integration with monitoring tools; recommend appropriate monitoring tool(s) for a solution; specify mechanism for event routing and escalation; design auditing for compliance requirements; design auditing policies and traceability requirements

Design for Identity and Security (20-25%)

- Design Identity Management
    - *May include but not limited to:* Choose an identity management approach; design an identity delegation strategy, identity repository (including directory, application, systems, etc.); design self-service identity management and user and persona provisioning; define personas and roles; recommend appropriate access control strategy (e.g., attribute-based, discretionary access, history-based, identity-based, mandatory, organization-based, role-based, rule-based, responsibility-based)
- Design Authentication
    - *May include but not limited to:* Choose an authentication approach; design a single-sign on approach; design for IPSec, logon, multi-factor, network access, and remote authentication

- Design Authorization
    - *May include but not limited to:* Choose an authorization approach; define access permissions and privileges; design secure delegated access (e.g., oAuth, OpenID, etc.); recommend when and how to use API Keys.
- Design for Risk Prevention for Identity
    - *May include but not limited to:* Design a risk assessment strategy (e.g., access reviews, RBAC policies, physical access); evaluate agreements involving services or products from vendors and contractors; update solution design to address and mitigate changes to existing security policies, standards, guidelines and procedures
- Design a Monitoring Strategy for Identity and Security
    - *May include but not limited to:* Design for alert notifications; design an alert and metrics strategy; recommend authentication monitors

Design a Data Platform Solution (15-20%)

- Design a Data Management Strategy
    - *May include but not limited to:* Choose between managed and unmanaged data store; choose between relational and non-relational databases; design data auditing and caching strategies; identify data attributes (e.g., relevancy, structure, frequency, size, durability, etc.); recommend Database Transaction Unit (DTU) sizing; design a data retention policy; design for data availability, consistency, and durability; design a data warehouse strategy
- Design a Data Protection Strategy
    - *May include but not limited to:* Recommend geographic data storage; design an encryption strategy for data at rest, for data in transmission, and for data in use; design a scalability strategy for data; design secure access to data; design a data loss prevention (DLP) policy
- Design and Document Data Flows
    - *May include but not limited to:* Identify data flow requirements; create a data flow diagram; design a data flow to meet business requirements; design a data import and export strategy
- Design a Monitoring Strategy for the Data Platform
    - *May include but not limited to:* Design for alert notifications; design an alert and metrics strategy

Design a Business Continuity Strategy (15-20%)

- Design a Site Recovery Strategy
    - *May include but not limited to:* Design a recovery solution; design a site recovery replication policy; design for site recovery capacity and for storage replication;

design site failover and failback (planned/unplanned); design the site recovery network; recommend recovery objectives (e.g., Azure, on-prem, hybrid, Recovery Time Objective (RTO), Recovery Level Objective (RLO), Recovery Point Objective (RPO)); identify resources that require site recovery; identify supported and unsupported workloads; recommend a geographical distribution strategy

- Design for High Availability
    - *May include but not limited to:* Design for application redundancy, autoscaling, data center and fault domain redundancy, and network redundancy; identify resources that require high availability; identify storage types for high availability
- Design a disaster recovery strategy for individual workloads
    - *May include but not limited to:* Design failover/failback scenario(s); document recovery requirements; identify resources that require backup; recommend a geographic availability strategy
- Design a Data Archiving Strategy
    - *May include but not limited to:* Recommend storage types and methodology for data archiving; identify requirements for data archiving and business compliance requirements for data archiving; identify SLA(s) for data archiving

Design for Deployment, Migration, and Integration (10-15%)

- Design Deployments
    - *May include but not limited to:* Design a compute, container, data platform, messaging solution, storage, and web app and service deployment strategy
- Design Migrations
    - *May include but not limited to:* Recommend a migration strategy; design data import/export strategies during migration; determine the appropriate application migration, data transfer, and network connectivity method; determine migration scope, including redundant, related, trivial, and outdated data; determine application and data compatibility
- Design an API Integration Strategy
    - *May include but not limited to:* Design an API gateway strategy; determine policies for internal and external consumption of APIs; recommend a hosting structure for API management

Design an Infrastructure Strategy (15-20%)

- Design a Storage Strategy
    - *May include but not limited to:* Design a storage provisioning strategy; design storage access strategy; identify storage requirements; recommend a storage solution and storage management tools

- Design a Compute Strategy
    - *May include but not limited to:* Design compute provisioning and secure compute strategies; determine appropriate compute technologies (e.g., virtual machines, functions, service fabric, container instances, etc.); design an Azure HPC environment; identify compute requirements; recommend management tools for compute
- Design a Networking Strategy
    - *May include but not limited to:* Design network provisioning and network security strategies; determine appropriate network connectivity technologies; identify networking requirements; recommend network management tools
- Design a Monitoring Strategy for Infrastructure
    - *May include but not limited to:* Design for alert notifications; design an alert and metrics strategy